J6721(C)
01-0505-CPI

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Customer Number:	000201
Attorney Docket No.:	**J6721(C)**
Applicant:	Zhang et al.
Serial No.:	10/056,968
Filed:	January 24, 2002
FOR:	THICKENER SYSTEM FOR COSMETIC COMPOSITIONS
UNUS No.:	01-0505-CPI

Group: 1617
Examiner: Lauren Q. Wells

Edgewater, New Jersey 07020
July 20, 2004

DECLARATION UNDER RULE 132

Commissioner for Patents
P.O. Box 1450
Alexandria VA, 22313-1450

Sir:

I, Joanna Hong Zhang, residing at 85 Viscount Drive, #11B, Milford, Connecticut 06460, do hereby declare and state that:

1. Herewith attached is my resume with curricula vitae.

2. I am a co-inventor of the invention claimed in the above-identified US Patent application.

3. A series of experiments were conducted either personally or under my supervision. These experiments were intended to evaluate the ability of various thickening systems to stabilize a typical low pH lotion incorporating an alpha-hydroxy carboxylic acid.

Attached is Table 1 indicating the compositions of the formulas that were evaluated. Sample 29A utilized xanthan gum as the sole thickener. Sample 29B utilized Aristoflex AVC® (ammonium acryloyldimethyltaurate/vinyl pyrrolidone) as the sole thickener. Sample 29C employed a combination of xanthan gum and Sepigel 305® (polyacrylamide). Sample 29D representing the present invention employed a thickener system of xanthan gum in combination with Aristoflex AVC®.

Table 2 reports on the stability results. The four Samples were placed in a temperature controlled environment. They were subjected to a standard storage stability test that included storage at 37°C, 43°C, 50°C and cycle from 4°C to 43°C. Only Sample 29D representing the present invention remained stable without phase separation after three months under the storage conditions.

4. Based on the stability results, I conclude that a combination of a polysaccharide (xanthan gum) with a taurate polymer (Aristoflex AVC®) provided unexpected extended formula stability. This stability was better than polysaccharide or taurate polymer alone. Compare Sample 29A and Sample 29B against Sample 29D. The known art such as Williams (US 5,422,112) suggests use of Sepigel 305® (polyacrylamide) with xanthan gum. This combination has been shown to be inferior in our experiments to the presently claimed thickener combination.

5. All statements made herein of my own knowledge are true and all statements made on information and belief are believed to be true; and further that these statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of this patent application or any patent issuing thereon.

7/21/04
Dated

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WORK EXPERIENCE:

2000 - Present	Senior Scientist, Product Development, Unilever HPC NA
1998 - 2000	Scientist, Personal Care Product Development, Unilever HPC NA
1997 - 1998	Scientist at Optima Inc. (Stratford, CT) for the development of optical lens materials and processes
1996 - 1997	Research Assistant in the Dept. of Materials Science and Engineering, University of Utah, working in the field of polymer surfactants
1994 - 1995	Consultant for Polymer Technology Corp.
1991 - 1994	Senior Scientist and Scientist at Polymer Technology Corp. (a subsidiary of Bausch & Lomb) for the development of contact lens materials and lens care solutions
1987 - 1991	Research Assistant in the Dept. of Materials Science and Engineering, University of Utah, working in the field of biomaterials
1984 - 1987	Materials Engineer at China Technology Center of Aeronautics for the development of engineering materials and composites

EDUCATION:

Nov., 2000	Ph. D. Thesis Defense, University of Utah, USA Topic: Polymeric Surfactants and Polysaccharides Major: Materials Science and Engineering
July, 1984	Master, Beijing University of Chemical Technology, P. R. China Major: Polymer Materials and Engineering
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Summary of Formulas and Stability for Aristoflex and Polysaccharide Synergy

Table 1: Formulas

INGREDIENT NAME	*Polysaccharide Only* **CJZ-7-29A** W/W %	*Aristoflex Only* **CJZ-7-29B** W/W %	*Sepigel + Polysaccharide* **CJZ-7-29C** W/W %	*Aristoflex + Polysaccharide* **CJZ-7-29D** W/W %
PHASE A				
Water, Deionized	48.1	47.7	47.4	47.4
Disodium EDTA	0.1	0.1	0.1	0.1
PHASE B				
Glycerine	12	12	12	12
Xanthum Gum (Keltrol CG 1000)	**0.3**		**0.3**	**0.3**
PHASE C				
PEG-100 Stearate (Myrj 59)	1.64	1.64	1.64	1.64
Cetyl Alcohol	1.64	1.64	1.64	1.64
GMS	0.82	0.82	0.82	0.82
Caprylic/Capric Triglyceride	6.5	6.5	6.5	6.5
Isopropyl Isostearate	6.5	6.5	6.5	6.5
PHASE D				
Sepigel 305			**0.7**	
Aristoflex AVC		**0.7**		**0.7**
PHASE E				
Water, Deionized	8	8	8	8
Glycolic Acid (70%)	11.4	11.4	11.4	11.4
Ammonia (Aqua 26 BE)	2.8	2.8	2.8	2.8
PHASE F				
Glydant Plus	0.2	0.2	0.2	0.2
Total	**100.0**	**100.0**	**100.0**	**100.0**

Table 2: Stability Results

37C, 43C, 50C, 4C-43C Cycle STORAGE STABILITY	*Polysaccharide Only* **CJZ-7-29A**	*Aristoflex Only* **CJZ-7-29B**	*Sepigel + Polysaccharide* **CJZ-7-29C**	*Aristoflex + Polysaccharide* **CJZ-7-29D**
Initial pH	3.9	3.9	3.9	3.9
Initial Viscosity (cps)	1,130	840	1,040	1,960
1 month	stable	phase separated	stable	stable
2 month	phase separated		stable	stable
3 month			phase separated at 50C	stable